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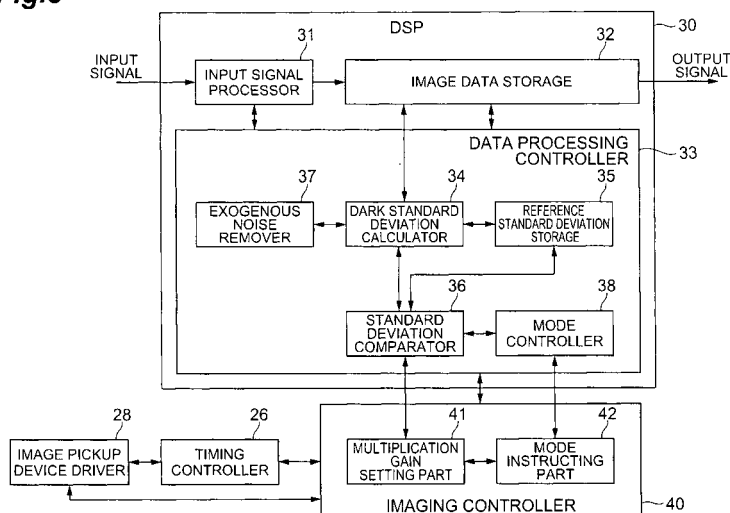
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(54) **Imaging apparatus and gain adjusting method for the same**

(57) An imaging apparatus 1A includes an electron multiplying solid-state image pickup device which has an electron multiplier section for multiplying charge signals generated in respective pixels; a multiplication gain setting part 41 for setting a multiplication gain in the electron multiplier section; a standard deviation calculator 34 for calculating a noise standard deviation of a noise image acquired under a predetermined condition by the image pickup device; a reference standard deviation storage 35 storing a reference standard deviation, and a standard

deviation comparator 36 for comparing the noise standard deviation and the reference standard deviation and outputting an obtained comparison result. At the time of gain adjustment, the multiplication gain setting part 41 adjusts the multiplication gain based on the comparison result by the standard deviation comparator 36. Thereby, an imaging apparatus which enables the user's side to easily and accurately re-adjust the multiplication gain of charge signals in the electron multiplying solid-state image pickup device, and a gain adjusting method for the same are realized.

Fig.3





EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A A A T	<p>EP 1 688 960 A2 (ANDOR TECHNOLOGY PLC [GB]) 9 August 2006 (2006-08-09) * figures 1,3,4 * * paragraphs [0006] - [0020], [0031] - [0034], [0052] - [0059] * -----</p> <p>JP 2003 009000 A (FUJI PHOTO FILM CO LTD) 10 January 2003 (2003-01-10) * abstract * * paragraphs [0006] - [0010] * -----</p> <p>US 3 898 452 A (HERTEL RICHARD J) 5 August 1975 (1975-08-05) * columns 1-2 * -----</p> <p>ROBBINS M S ET AL: "The Noise Performance of Electron Multiplying Charge-Coupled Devices" IEEE TRANSACTIONS ON ELECTRON DEVICES, IEEE SERVICE CENTER, PISCATAWAY, NJ, US, vol. 50, no. 5, 1 May 2003 (2003-05-01), pages 1227-1232, XP011072658 ISSN: 0018-9383 -----</p>	<p>1-2,4-7, 9 3,8</p> <p>1-2,5-7</p> <p>1,6</p> <p>1-2,6-7</p>	<p>INV. H04N5/217 H04N5/235 H04N5/335</p> <p>TECHNICAL FIELDS SEARCHED (IPC) H04N</p>
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 February 2010	Examiner Oelsner, Martin
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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